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BOTANY.—*Revision of the genus Myrrhidendron.*¹ JOHN M. COULTER, Boyce Thompson Institute, and J. N. ROSE, National Museum.

In 1894 we published, in the *Botanical Gazette*, the description of a very remarkable genus of Umbelliferae, from the high mountains of Costa Rica. This plant had been obtained by Capt. John Donnell Smith as one of the results of his energetic pioneer field work in Central America. Through his generosity we were able to accompany this description with a beautiful lithographic plate, made from a drawing by the late C. E. Faxon. Nothing more was learned of this genus until 1911, when Dr. William R. Maxon and Mr. Henry Pittier collected a similar plant high on the slopes of the volcano Chiriquí, in Panama. Again, in 1917, Dr. F. W. Pennell collected on the páramos of western Colombia a third species, which we have named in his honor. While studying this new plant from Colombia, we had occasion to re-examine Bentham's *Arracacia glaucescens*, and have reached the conclusion that this also should be referred to *Myrrhidendron*, thus raising the number of species to four.

KEY TO SPECIES

- Leaflets more or less irregularly cleft or lobed. 1. *M. glaucescens*
Leaflets not lobed, or rarely some of them with 2 or 3 lobes.
Rachis with a dense ring of short hairs at the base of the pinnae and leaflets
2. *M. Pennellii*
Rachis without a dense ring of short hairs at base of leaflets.
Rays and pedicels glabrous. 3. *M. Maxonii*
Rays and pedicels pubescent. 4. *M. Donnell-Smithii*

¹ Received March 12, 1927.

1. *Myrrhidendron glaucescens* (Bentham) Coulter & Rose

Arracacia glaucescens Bentham, Pl. Hartw. 187. 1845.

Herb, 1 meter high or more, stout, glabrous; basal and lower stems long petioled, with large vaginate stipular bases; blade ternate, then pinnate; ultimate segments strongly veined beneath, cleft, the lobes sharply serrate; umbel strongly petioled; involucler bracts several, more or less elongated, toothed; involuclers narrow, entire or 3-toothed at apex; fruiting rays 15 to 20, about equal, 6 to 8 cm. long, somewhat hispid on the angles; pedicels 6 to 10 cm. long; fruit oblong, 8 to 10 mm. long, glabrous.

Type locality: "Hacienda de Iravi, prope pagum Perucho," Colombia.

We have not seen Hartweg's type of this species, but we have Purdie's specimen from Colombia collected in 1849 and F. W. Pennell's plant from the forests near the edge of the Páramo de Ruiz, in the Quindío, altitude 3,200 to 3,500 meters (no. 2997), and the plant of J. Triana from the forest of Quindío, altitude 2,600 meters, collected 1851 to 1857 (in the Columbia College Herbarium).

2. *Myrrhidendron Pennellii* Coulter & Rose, sp. nov.

Herb, caulescent, perhaps a meter high or more, glaucous, glabrous except the top of the stem and inflorescence; basal and lower leaves unknown; petioles of upper leaves broadly stipular; rachis glabrous except at the base of the pinnae and leaflets, here bearing a conspicuous ring of hairs; blade ternate, then pinnate; leaflets lanceolate, acuminate, 2 to 5 cm. long, sharply serrate, glabrous on both sides; peduncle 1 to 2 cm. long, more or less mealy-pubescent, tending to become glabrate below; involucre none; involucler bractlets conspicuous, sometimes entire but usually strongly lacerate at the apex; rays numerous, nearly equal, 4 to 6 cm. long, pubescent; pedicels 8 to 10 mm. long; fruit oblong.

Type in the U. S. National Herbarium, no. 1,042,584, collected near the Páramo de Ruiz in the Quindío, Colombia, altitude 2,600 to 2,800 meters, December 15 to 17, 1917 by F. W. Pennell (no. 2993). Also collected near Quindío Pass, August 2, 1922, by Killip and Hazen (nos. 9166 and 9452) at altitudes of 3,200 to 3,500 meters.

3. *Myrrhidendron Maxonii* Coulter & Rose, sp. nov.

A slender shrub, 3 to 4 m. high, crowned by a rosette of leaves, 3 to 4 dm. long, 3 to 4 times ternately compound; stipular sheaths of the petiole not greatly enlarged, about half the length of the petiole itself; leaflets lanceolate, acuminate, sharply serrate, the teeth bristle-tipped; umbel many-rayed; rays 5 to 10 cm. long; pedicels 1 to 1.5 cm. long; involucre usually a single large bract; involucler bractlets several, laciniately cleft toward the apex; fruit narrow, 2 cm. long.

Type in the U. S. National Herbarium, no. 675,668, collected on Cuesta Grande, eastern slope of Chiriquí Volcano, Panama, altitude 2,000 to 2,990 meters, March 11 to 13, 1911, by William R. Maxon (no. 5311). Collected also at the same place and time by H. Pittier (no. 3099).

4. MYRRHIDENDRON DONNELL-SMITHII Coulter & Rose, Bot. Gaz. 19: 466. 1894.

A small tree, 3.6 to 4.8 m. high; trunk 7.5 cm. in diameter; leaves large, 30 cm. or more long, ternately compound; leaflets ovate to lanceolate, 2.5 to 5 cm. long, acute, sharply and often irregularly serrate, the teeth more or less mucronate-tipped, glabrous, shining and impressed-veiny above, dull and paler beneath and conspicuously reticulate; petiolules with a prominent stipular ring which is more or less glandular-tufted; petioles large, inflated; peduncles short; involucre few-leaved; involucels numerous, 3 or 4-toothed or cleft near the apex, scarious-margined and strongly purplish-veined; inflorescence more or less glandular-puberulent; rays numerous, rarely equal; pedicels 8 to 10 mm. long; fruit linear, 10 to 12 mm. long, glabrous.

Type locality: Lava beds at the summit of the Volcano Irazú, Costa Rica.

Besides the type specimen this plant has been collected in Costa Rica on the Volcán de Turrialba, 1924, by Paul C. Standley (no. 35056), and in 1899 by H. Pittier (no. 13214); on the Volcán Poás, 1924, by Paul C. Standley (no. 348681), and, 1890, by H. Pittier (no. 2012); and on Cerro de las Vueltas, 1925-26, by Paul C. Standley (no. 43970).

BOTANY.—*Two new grasses from South America.*¹ A. S. HITCHCOCK,
Bureau of Plant Industry.

Recently a package of grasses was received from the Museu Nacional do Rio de Janeiro, Brazil, which included many interesting specimens. Among them was an undescribed species of *Olyra* which I take pleasure in naming for the Director of the Museum, Dr. Alberto José de Sampaio, who sent me the specimens and who collected most of them, though this interesting species of *Olyra* was collected by José Vidal.

The new species, described below, differs conspicuously from all other species of *Olyra* in the condensed inflorescence and the villous-ciliate spikelets.

Olyra Sampaiana Hitchc., sp. nov.

Plant perennial; culm erect, retrorsely scaberulous, pubescent below the panicle, about 35 cm. tall, naked below, the sheaths bladeless, bearing two foliage leaves above, the nodes appressed-pubescent; sheaths slightly retrorsely scaberulous, ciliate on the overlapping margin, 6 to 7 cm. long; ligule 1 to 2 mm. long, truncate; blades thin, oblong-lanceolate, abruptly rounded below into a short puberulent petiole about 2 mm. long, gradually narrowed to an acuminate apex, glabrous on the upper surface, antrorsely scabrous beneath, 13 to 15 cm. long, 4.5 to 5 cm. wide, the principal nerves about 5 pairs; panicle condensed, oblong, 6 cm. long, 1 cm. wide, staminate

¹ Received March 15, 1927.

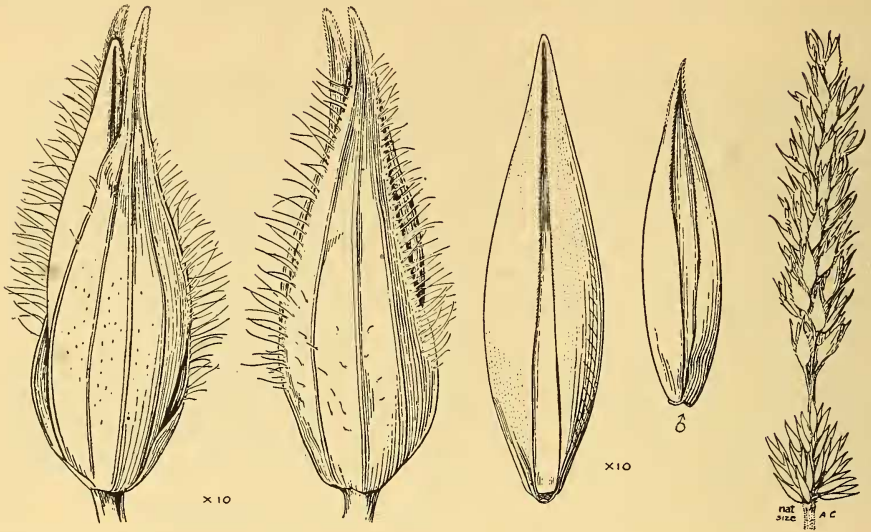


Fig. 1.—*Olyra Sampaiana*, 2 views of pistillate spikelet, fruit, and staminate spikelet, $\times 10$ dia.: panicle, nat. size.



Fig. 2.—*Trisetum bulbosum*, spikelet, floret, and palea, $\times 5$ dia.

below, pistillate above, interrupted between, the staminate portion about 1 cm. long; staminate spikelets narrow, about 4 mm. long, acuminate; pistillate spikelets about 2.5 mm. wide, the glume and sterile lemma about equal, 7 mm. long, tawny, rather thick and firm, 5-nerved, the outer nerves forming a thickened margin, the glume minutely pubescent, with a conspicuous fringe of hairs near the margin and somewhat short-villous on the back below, the sterile lemma similar but less villous and with scant marginal hairs; fruit narrow, 6 mm. long, 1.7 mm. wide, acuminate, with a blunt tip, laterally compressed at base, glabrous, dull white or tawny, under a lens very obscurely pitted, the margins nearly meeting over the palea along the upper part.

Type in the United States National Herbarium, no. 1,297,351, collected at Reeve, State of Espirito Santo, Brazil, December 6, 1924, by José Vidal (no. 44). I have seen no other specimen.

The Grass Herbarium recently received a package of Chilean grasses from Brother Claude Joseph who has sent many plants from Chile to the United States National Herbarium. In this package was the specimen of *Trisetum* which is described below as a new species.

Trisetum bulbosum Hitchc., sp. nov.

Perennial; culms erect, glabrous, 30 to 50 cm. tall, the base thickened to a bulb 3 to 6 mm. thick; sheaths glabrous; ligule thin, rounded and lacerate, 1 to 2 mm. long, decurrent; blades glabrous, scaberulous, flat, becoming somewhat involute or folded, mostly not more than 5 cm. long, the 4 to 6 cauline ones gradually shorter, 0.5 to 1.5 mm. wide; panicle narrow, almost spikelike, 8 to 10 cm. long, pale, the branches appressed, the axis and branches scabrous; spikelets narrow, about 1 cm. long, mostly 3-flowered, the rachilla prolonged as a small bristle, the third floret smaller than the others; glumes narrow, the first 6 to 7 mm. long, 1 to 3-nerved, the second a little wider and a little longer (about 1 mm.) than the first, 3 to 5-nerved; first lemma narrow, about 1 cm. long, rather obscurely 3-nerved, minutely scaberulous below, the callus antrorsely pubescent, 0.5 mm. long (being the first rachilla-joint disarticulating at the base), the upper half scarious, the apex divided into two delicate pointed teeth 1 mm. long, the awn emitted from about the middle of the back, 12 to 15 mm. long, geniculate, flexuous; palea small and narrow, about half as long as the lemma, finely ciliate on the nerves; second lemma similar to the first but a little smaller, the callus slender, sharp-pointed, about 2 mm. long, antrorsely pilose (consisting of the second joint of the rachilla disarticulating near the base), the short pilose base of the next rachilla joint remaining behind the palea; anthers 2 mm. long.

Type in the United States National Herbarium, no. 1,297,352, collected at Concepción (San Pedro), Chile, October 30, 1926, by Brother Claude Joseph (no. 4607). I have seen no other specimen.

This species is easily distinguished by the small bulbs at the base of the culm. It differs from other species of *Trisetum* in the disarticulation of the rachilla. Usually, in this and allied genera, the rachilla disarticulates at the summit of the joint or internode thus leaving only a short callus at the base of the floret, the rachilla-joint above being persistent along the back of the palea. In *Trisetum bulbosum* the disarticulation takes place at the base of the joint, leaving the joint above as a long sharp callus projecting below the floret.